State Water Resources Control Board

Division of Clean Water Programs
1001 I Street, Sacramento, 16th Floor, California 95814
P.O. Box 944212, Sacramento, California 94244-2120
(916) 341-5700 ♦ FAX (916) 341-5707

Winston H. Hickox
Secretary for Environmental Protection

Gray Davis
Governor

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.swrcb.ca.gov.

May 15, 2002

SENT
VIA E-MAIL

Assembly Bill 599 (AB 599) Public Advisory Committee (PAC) Members:

MAY 29, 2002, AB 599 PAC MEETING

The AB 599 PAC will meet on Wednesday, May 29, 2002, at the Sheraton Grand Hotel, 1230 J Street, in Sacramento, California from 9:30 a.m. to 4:00 p.m.

Please find enclosed the meeting agenda (enclosure 1) and the documents to support many of the agenda items (enclosure 2). As we discussed at the April 9, 2002 PAC Meeting, the next PAC Meeting will shift to a "workshop" approach. To initiate this approach, we will use the draft Comprehensive Groundwater Monitoring Report (Report) outline to guide workshop discussions. The workshops will cover the following:

- Interagency Task Force (ITF) members will present a brief overview and ITF recommendation related to a specific Report chapter. For the next PAC meeting, this will include:
  - *General Features and Goals of the Comprehensive Groundwater Monitoring Program (Chapter 2),*
  - *Data Management Needs for the Comprehensive Groundwater Monitoring Program (Chapter 5)*
  - *Existing Groundwater Programs (Chapter 3),*
  - *Interagency Coordination for Groundwater Monitoring Programs (Chapter 4), and*
- The PAC will provide input/discussion on the ITF recommendations.
- Finally, PAC consensus on the subject, as appropriate.

In preparation for the May 29, 2002 meeting, please review the enclosed documents. AB 599 meeting information is also available on the State Water Resources Control Board website at: http://www.swrcb.ca.gov/cwphome/ab599

If you have any questions regarding AB 599 or the PAC meeting, please call me at (916) 341-5687 or Mr. John Borkovich at (916) 341-5779.

Sincerely,

/s/
Lisa Babcock, Chief
Land Disposal Section
Division of Clean Water Programs

Enclosures

cc: Ms. Celeste Cantú, Executive Director
Mr. Harry M. Schueller, Chief Deputy Director
Ms. Barbara L. Evoy, Chief, Division of Clean Water Programs (CWP)
Mr. James Giannopoulos, Chief, Regulatory Programs Branch, CWP

Enclosure 1

AB 599 PUBLIC ADVISORY COMMITTEE

Wednesday, May 29, 2002
9:30 AM to 4 PM
Sheraton Grand Hotel – 1230 J Street
Sacramento, California

A G E N D A

1.	*Convene Meeting*	9:30
2.	*Review Agenda and Approve April 9, 2002 Meeting Summary*	9:30 – 9:45
3.	*Workshop: Goals/Features of the Comprehensive Groundwater Monitoring Program (Report Chapter 2)* • Brief Presentation on ITF Recommendation • Discussion • Desired Outcome: PAC consensus on ITF recommendation.	9:45 – 11:45
4.	*Public Comment*	11:45 – Noon
LUNCH		Noon – 1:00
5.	*Workshop: Data Management Needs for the Comprehensive Groundwater Monitoring Program (Report Chapter 5)* • Brief Presentation on ITF Recommendation; Comments by Geotracker User • Discussion- ➢ Has the ITF overlooked any users or user functionality? • Desired Outcome: PAC consensus on ITF recommendation.	1:00 – 2:00
6.	*Workshop: Interagency Coordination for Groundwater Monitoring Programs (Report Chapter 4) and Existing Groundwater Monitoring Programs (Report Chapter 3)* • Brief Presentation on ITF Recommendation • Discussion- ➢ PAC experiences/lessons learned related to interagency coordination. ➢ PAC suggestions to enhance local and federal agency coordination with state agencies. • Desired Outcome: PAC consensus on ITF recommendation.	2:00 – 3:00
BREAK		3:00 – 3:15
7.	*Establish Next PAC Meeting Agenda; Approve Workplan*	3:15 – 3:45
8.	*Public Comment*	3:45 – 4:00
9.	*Evaluate Meeting and Adjourn*	4:00

Updated 5-13-02

May 29, 2002 Public Advisory Committee Meeting
Supporting Documents

Per our discussions at the April 9, 2002 PAC Meeting, we are providing you with the following information:

Item 1.
Meeting Summary from April 9, 2002 PAC Meeting.

Item 2.
May 29, 2002 PAC Meeting Workshop Materials (including ITF Recommendations).

Item 3.
Draft Workplan for Implementing the Groundwater Quality Monitoring Act of 2001.

In preparation for the May 29, 2002 meeting, please review the above documents. AB 599 meeting information and supporting documents is also available on our website at: http://www.swrcb.ca.gov/cwphome/ab599

Revised 5-13-02

ITEM 1

AB 599 Public Advisory Committee

Doubletree Hotel
2001 Point West Way
Sacramento, California

Draft Meeting Summary

Tuesday, April 9, 2002

Convene Meeting
The meeting began at 9:40 a.m. Members of the PAC, staff and the public introduced themselves.

Review Agenda and Approve February 27 Meeting Summary
Steve Ekstrom, PAC facilitator, described the plan for the day. The meeting summary for February 27, 2002 was approved as mailed by consensus.

Groundwater Databases
Dr. Anne Happel of EcoInteractive gave a presentation on databases with emphasis on the GeoTracker database system. Topics covered were:

- Current status of State agencies groundwater data
- Regulatory/compliance data bases
- Why is integrated access important?
- Challenges
- What is the GeoTracker solution?
  - GeoTracker approach
  - Solution design
  - Integrates data from multiple programs and agencies
  - Case management
  - Integrated access
  - GeoTracker user statistics
  - 24/7 access
  - Expected benefits
- Other states' systems

PAC members had several questions and comments:

- Can GeoTracker be used for the AB599 project? Response: yes, it's an option; and the risk is lower than developing a "from-scratch" system.
- What are the limiting factors? Response: none; it's very scalable.
- Can it manage current monitoring needs? Response: no, because there's limited data in the system now.
- What's needed to make GeoTracker usable for the AB599 project? Response: access to all groundwater-related data and good data quality.
- What's the annual cost to maintain GeoTracker? Response: approximately $200,000 annually.

- It would be good to hear from agencies, e.g., county environmental health programs, that have used GeoTracker: what's been their experience?
- Perhaps we could run a pilot program that interprets USGS and DHS data.
- Whatever system we adopt must have cross-check capability.
- It should also be able to examine legacy data.
- How much would it cost to develop a GeoTracker program for the AB599 project? Response: approximately $1.2 million, plus approximately $700,000 for data acquisition and clean-up.
- We need to know what we need from the data, and how we want it to flow.
- How much data is produced by each agency participating in AB599, and how much is in usable form? Response: SWRCB data (UST and SLIC sites, Groundwater Ambient Monitoring and Assessment Program data); DHS data (public wells); and DWR data (groundwater basins)

Other databases discussed were ScoreCard and EnviroMapper. The PAC asked that information on these programs be made available to them.

Public Comment

Members of the public were asked if they had any comments. These included:

- Remember, the legislature wants to know how much of California's groundwater is contaminated.
- We should be asking what other state agency needs are as well as local government, and other stakeholders.
- We need basin-wide data analysis tools.
- Given the "ocean of data" that exists, how do we create a happy medium between getting the right data and assuring the quality of that data.

Overview of State Groundwater Programs, Data and Data Gaps

Angela Schroeter reviewed the three handouts supplied in advance to the PAC. These were, 1) a description of each participating agency's objectives, including the number of PYs budgeted and the annual budget for groundwater monitoring and assessment; 2) a description of the data collected by each agency; and 3) each agency's description of their perceived data gaps.

Regarding data gaps, the agencies, if given the option, would collect more data, manage data better, and share data more.

Comments from the PAC included:

- We need the ability to assess overall groundwater quality
- It would be good to compare resources allocated to groundwater monitoring to other water quality programs, like the surface water programs.
- We need to address jurisdictional coordination in the Report to the Legislature.
- Have we defined "comprehensive evaluation? Response: no, we hope to do that with this program.
- How much of each agency's allocation to groundwater monitoring is spent on information management? Response: this could be difficult to ascertain as a PY is often not 100% dedicated to groundwater monitoring. The ITF will look into this.
- Is data collected by other responsible parties authorized by state agencies? Response: yes, much of it is (Example: Local agencies collect data on USTs).

Groundwater Monitoring Definitions
Steve Ekstrom suggested in the interest of time that PAC members review the document previously mailed out (ITEM 3 in the packet) and email any questions or comments to Angela. Angela will collect these and mail them back out to the PAC.

Questions to Address in a Comprehensive Groundwater Monitoring Program
Steve Ekstrom explained that in response to PAC's request from the last meeting, the ITF had developed a "brainstormed" list of categorized questions that a comprehensive groundwater monitoring program should address. Again, in the interest of time, Steve suggested that PAC members review the questions previously mailed out (ITEM 4 in the packet) and email any questions or comments to Angela. Angela will collect these and mail them back out to the PAC.

Comprehensive Groundwater Monitoring Program
Dr. Kenneth Belitz with the USGS gave a presentation on "the ideal" groundwater monitoring program, as requested by the PAC at its last meeting. Ken stated that it's virtually impossible to describe the ideal program, and therefore presented various perspectives and questions that should be considered in developing the ideal. His presentation included the following questions:

- What does the ideal program achieve?
- What are the components of a monitoring program?
  - What are the criteria for well selection?
  - What chemical analyses might be appropriate?
  - How often should wells be sampled?
  - What should the database provide for monitoring to be successful?
  - What are some key interpretive results to be provided from a monitoring program?
- Resources available to us and existing resources
  - Where are available wells? What chemical data is collected and how can the data be used?
  - What hydro-geological data is available that could be incorporated into the monitoring program?

Ken then presented two different case studies, the Santa Ana NAWQA study and the SWRCB CAS study.

Ken's concluding remarks included:
- A hydrogeological understanding provides a basis for interpreting data.
- Consistency facilitates interpretation.
- Spatially-referenced, digital data is critical.
- Anthropogenic compounds are useful as tracers.

Questions and comments from PAC included:
- What was the cost of each case study? Response: approximately $120,000.
- The USGS case studies are good programs that have good interpretative data.
- Whatever we do should have an early warning system built in.
- The USGS approach doesn't capture domestic wells – these need to be included.
- Hydrogeological data is critical.
- We can't overlook disadvantaged communities - we need to be attentive to environmental justice issues.

- What is it we're really trying to accomplish?
  - A data warehouse that is accessible to various interests?
  - Analysis of private wells?
  - A planning tool for land use planning?
  - Early warning and remediation?
  - Data that's available to the public?

This last question about what we're trying to accomplish triggered a lengthy discussion about the larger goals of the AB599 program and an expressed need for the PAC to dig into the issues. PAC felt they had received ample background information (presentations, packets of information, etc.) and that it was important now for the ITF to bring things to focus by asking the PAC to respond to specific ideas, suggestions and recommendations. The idea of using the next few meetings as opportunities for "mini-workshops" was raised and endorsed.

At the next meeting it was agreed we should have workshop-type sessions on at least the overall goals of the program, components of an ideal monitoring program, databases, and data gaps. The ITF was encouraged to take positions on these topics as a way to focus the PAC's discussion.

Proposed Outline for the Comprehensive Groundwater Monitoring Report to the Legislature
The proposed outline was ITEM 6 in the packet of information previously mailed out to the PAC. It is included in the project workplan that was distributed and will be considered at the May 29, 2002 meeting.

Establish Next PAC Meeting Agenda
In addition to holding "workshops" on the four topics, the PAC will also be asked to approve a work plan for the project (a draft was distributed at this meeting). The work plan will be sent out in advance of the May meeting.

The next meeting is scheduled for May 29, 9:30 a.m. to 4:00 p.m. in Sacramento.

Public Comment
Members of the public were invited to address the PAC.

Reminder to PAC members to fill out and return their travel expense claims to Jeanice Tipps at the SWRCB.

Adjournment: The meeting was adjourned by the Chair at 4:15 p.m.

ITEM 2

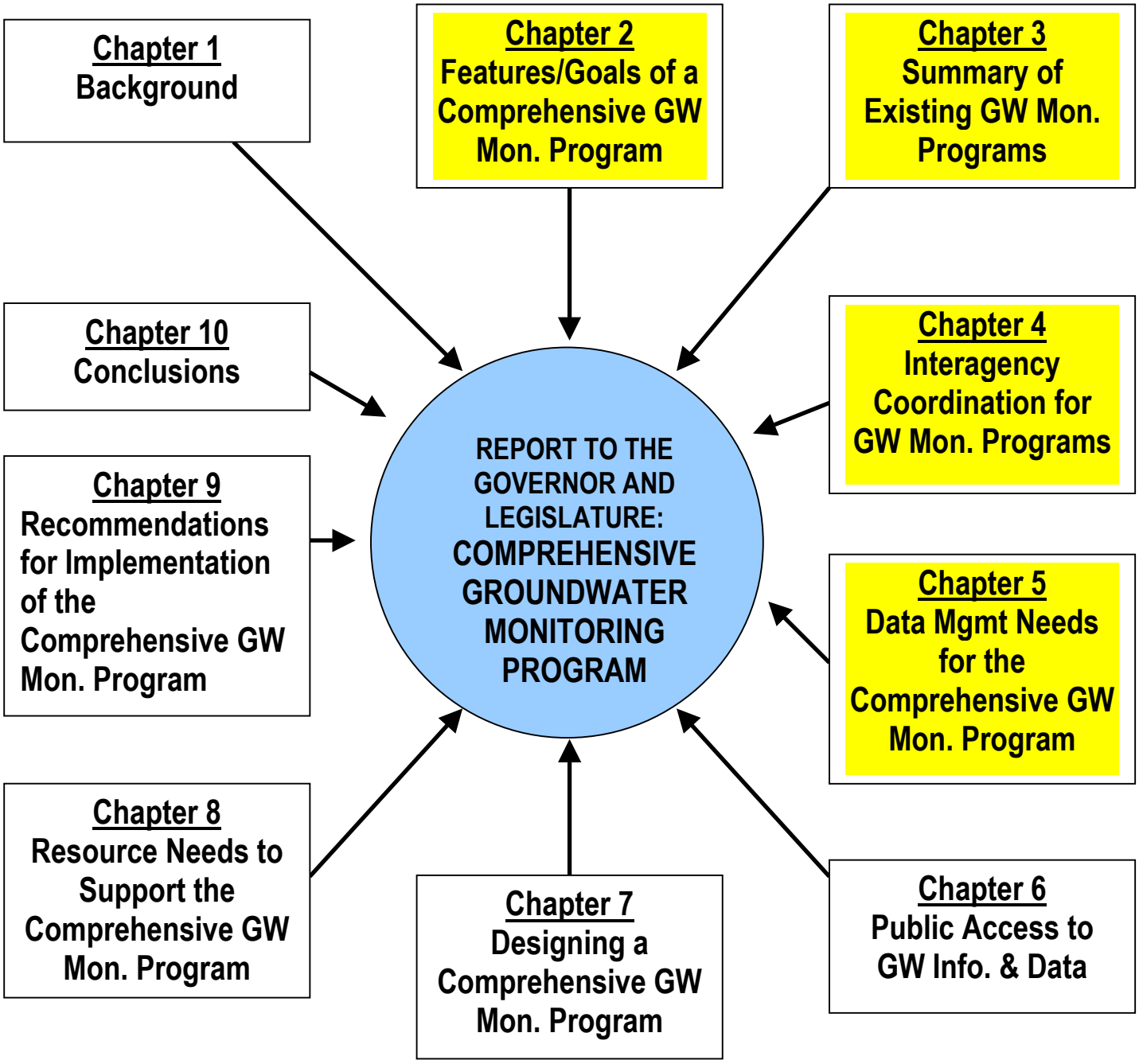
MAY 29, 2002 PAC MEETING - WORKSHOP MATERIALS

As discussed at the April 9, 2002 PAC meeting, the May 29, 2002 PAC meeting will shift to a "workshop" approach. To initiate such an approach, we will use the draft Comprehensive Groundwater Monitoring Report (Report) outline to guide workshop discussions (see Figure 1). The workshops will cover the following:

1. Interagency Task Force (ITF) members will present a brief overview and ITF recommendation related to a specific Report chapter. This will include:
    - *General Features and Goals of the Comprehensive Groundwater Monitoring Program (Chapter 2),*
    - *Data Management Needs for the Comprehensive Groundwater Monitoring Program (Chapter 5),*
    - *Existing Groundwater Programs (Chapter 3), and*
    - *Interagency Coordination for Groundwater Monitoring Programs (Chapter 4)*
2. The PAC will provide input/discussion on the ITF recommendations.
3. Finally, PAC consensus on the subject, as appropriate.

In preparation for the May 29, 2002 PAC meeting, please review the following materials, including specific ITF recommendations.

Figure 1. Comprehensive Groundwater Monitoring Program Report. Chapters to be discussed at the May 29, 2002 PAC Meeting are shaded.



Abbreviations:
GW – Groundwater
Info – Information
Mgmt – Management
Mon – Monitoring
Calif. - California

Revised 5-13-02

COMPREHENSIVE GROUNDWATER MONITORING PROGRAM REPORT TO THE GOVERNOR AND LEGISLATURE

Based on comments from the AB 599 PAC members, the ITF members discussed the various elements to include in the Comprehensive Groundwater Monitoring Program Report (Report) to the Governor and Legislature. The ITF has identified these elements as distinct chapters in the Report and have proposed specific recommendations regarding each element.

Chapter 2: Features & Goals of the Comprehensive Groundwater Monitoring Program

Assembly Bill 599 requires that the elements of the comprehensive groundwater monitoring program to incorporate existing data whenever possible, and prioritize groundwater basins that supply drinking water. Ongoing throughout this process are the fundamental "general features" to be included in a comprehensive groundwater monitoring program. These elements were presented in detail in the 2000 Report to the Legislature titled: "Plan for Implementing a Comprehensive Program for Monitoring Ambient Surface and Groundwater Quality," prepared by the SWRCB.

Those Features include: (ITF overview given by: John Borkovich)

- Clear Objectives
- Cooperative Efforts
- Adaptability/Flexibility/Responsive to Changing Needs
- Scientifically Sound Monitoring Design
- Meaningful Indicators
- Comparable Methods of Sampling/Analyses
- Data Quality Assurance/Quality Control
- Results Evaluation
- Continual Refinement
- Regular Reporting

The ITF recommends these specific Goals for the Comprehensive Groundwater Monitoring Program:

GOAL 1: The Program should be multi-purpose and useful at various scales (local, regional, statewide).

- ITF overview given by: John Troiano, Joey Marade and John Borkovich

GOAL 2: The Program should have the ability to make various groundwater assessments:

- ITF overview given by: Neil Dubrovsky and Al Vargas
    - Describe current status
    - Identify trends
        - Describe current trends in groundwater quality
        - Show potential future trends in groundwater quality
    - Identify emerging issues
    - Relate groundwater quality to human and natural factors that affect it
    - Identify data gaps, such as:

- Spatial Data
- Use of water
- Various constituents of concern
- Local data
- 3-dimenstional information (depth)
- Volume/rate of pumping

<u>GOAL 3</u>: The Program Data and Findings should be accessible and "User Friendly"

- Enable timely response to the Legislature and other decision makers
- This goal relates to Chapter 6 – Public Access to Groundwater Information and Data

<u>GOAL 4</u>: The Program should include a process to facilitate interagency coordination on new and existing groundwater issues. This goal relates to Chapter 4 – Interagency Coordination for Groundwater Monitoring Programs.

- ITF overview given by: James Giannopoulos

<u>GOAL 5</u>: **The Program should enable the assessment of resource needs. This goal relates to Chapter 8 – Resource Needs to Support the Comprehensive Groundwater Monitoring Program**.

- ITF overview given by: Lisa Babcock and Doug Osugi
- The Report will assess current resource needs to implement comprehensive groundwater monitoring program based on the recommendations from the ITF. Examples include:
  - Past budget cuts to existing groundwater monitoring programs (ex: Wellhead Investigation Program (WIP) at SWRCB)
  - In budget-critical times, collection of monitoring data and data management tends to take a hit
  - Lack of data assessment resources available (ex: well logs)
- Report will identify an ongoing process to daylight resource needs as the Comprehensive Groundwater Monitoring Program is implemented.

DISCUSSION:

PAC input and consensus on ITF recommendation, as appropriate.

Chapter 5: Data Management Needs for the Comprehensive Groundwater Monitoring Program

- ITF overview given by: John Troiano

I. The ITF recommends that the groundwater data management system has the following functionality:

- Facilitates electronic data exchange and the use of data standards
- Assures data quality
- Includes description of data source
- Spatially-referenced
- Incorporates tools for all user communities, including:
  - Public (Responsible Parties, Bankers)
  - Researchers
  - Decision Makers (Legislature, Government Officials)
  - Technical Professionals From Public Agencies
- Includes historical retention of records and the ability to analyze data over various timeframes
- Provides public access to groundwater data and information
- Supports business to government transactions

II. To achieve the functionality outlined above, the ITF recommends utilizing the SWRCB's GeoTracker application:

- Data Warehouse (GeoTracker, Oracle-based)
- GIS Capabilities (GeoTracker, ESRI-based)
- Internet Accessible (GeoTracker, ESRI-based)

III. GeoTracker/ EnviroMapper/ Scorecard Comparison

- ITF overview given by: John Borkovich & Lisa Babcock

At the last PAC meeting, PAC members requested a brief discussion with GeoTracker users on their experience with the application. In addition, PAC members requested a brief overview of the EnviroMapper and Scorecard applications. As a first step, the ITF will prepare a matrix table comparing EnviroMapper, Scorecard and GeoTracker applications.

DISCUSSION:

- Have we overlooked any user functionality? Have we missed any users?
- PAC input and consensus on ITF recommendation, as appropriate.

Chapter 3: Description of Existing Groundwater Monitoring Programs

- ITF overview given by: James Giannopoulos & Lisa Babcock

I. According to the U.S. Geological Survey, components of a groundwater monitoring network include the following:
   - Hydrogeologic conceptualization
   - Wells that provide access to the groundwater resource
   - Chemical analyses of water obtained from wells
   - Spatially-referenced, digital database
   - Interpretation
   - Consistency in well selection, chemical analyses, database, and interpretation.

II. Existing Groundwater Programs
   - Existing groundwater programs will be summarized in the Report to the Legislature.
   - Much data exists. However, some of the key components of a groundwater monitoring network (identified above) are lacking. Data gaps will also be identified in the Report to the Legislature

The ITF recommends the following approach to Chapter 3 – Existing Groundwater Monitoring Programs:
   - Describe existing groundwater monitoring programs and data/information collected by each program.

DISCUSSION:
PAC input and consensus on ITF recommendation, as appropriate.

Chapter 4: Interagency Coordination For Groundwater Monitoring Programs

- ITF overview given by: John Borkovich & Lisa Babcock

The ITF recommends that the Comprehensive Groundwater Monitoring Program include the interagency coordination elements shown in the table below. The "Current Status Indicator" designates the current status of the coordinating effort:

- **Y (Yes) –** Coordination exists;
- **P (Partial Yes) –** Coordination exists - but could be improved; and
- **N (No) –** Coordination does not currently exist.

Interagency Coordination Element	Current Status*
Create mechanism/process to insure ongoing interagency coordination (e.g. Groundwater Resources Information Sharing team - GRIST)	P
Increase collaboration / Avoid duplication	P
Interagency communication on groundwater projects	P
Share Data (e.g. GIS Coverage)	P
Share data collection responsibilities	P
Develop a minimum sampling and analytical protocols for all groundwater agencies	N
Share specialized training (e.g. Electronic Deliverable Format - EDF)	P
Collaborate on data interpretation	P
Share lab facilities / share information on laboratory methods (DPR/DHS)	P
Risk-based information sharing –to provide context for Water Quality Information (MCLs, Action Levels)	P

DISCUSSION:

- Does the PAC have any experience with interagency coordination that could provide lessons learned for ITF?
- Does the PAC have any suggestions to enhance interagency coordination with local and federal agencies?
- PAC input and consensus on ITF recommendation, as appropriate.

ITEM 3

DRAFT

WORKPLAN FOR IMPLEMENTING THE GROUNDWATER QUALITY MONITORING ACT OF 2001 (ASSEMBLY BILL 599)

Staff Report by the
Division of Clean Water Programs

May 2002

Updated May 8, 2002

Table of Contents

INTRODUCTION

In October 2001, the Governor approved Assembly Bill 599 (AB 599, Groundwater Quality Monitoring Act of 2001). Introduced by Assembly Member Carol Liu, the goal of the Groundwater Quality Monitoring Act of 2001 (Act) is to improve comprehensive groundwater monitoring and increase the availability of information about groundwater quality to the public (The full text of AB 599 is included as Attachment 3). This workplan presents the goals, objectives and tasks necessary to implement the requirements of the Act [Part 2.76 (Section 10780) to Division 6 of the Water Code].

In general, the Act requires the State Water Resources Control Board (SWRCB), in coordination with an Interagency Task Force and Public Advisory Committee, to design a comprehensive statewide groundwater quality monitoring program that integrates existing groundwater monitoring programs and new program elements, as necessary.

More specifically, the Act requires that on or before March 1, 2003, the SWRCB, in consultation with the other task force agencies, submit a report to the Governor and the Legislature. The multi-agency report shall include the following elements:

1. A detailed description of a comprehensive groundwater quality monitoring program for California.
2. A description of how the program takes maximum advantage of existing information and an assessment of additional monitoring necessary to support the program.
3. A specific set of recommendations for coordinating and, as necessary, restructuring existing monitoring programs.
4. An estimate of funding necessary to implement the comprehensive program and the factual basis for the estimate.
5. Recommendations for an ongoing source of funds to pay for the program.
6. A prioritized list of actions that, if implemented independently, would increase effectiveness of monitoring efforts.

PROJECT GOALS

Groundwater Quality Monitoring Act and the SWRCB Strategic Plan

The goal of the Act is to improve comprehensive groundwater monitoring and increase the availability of information about groundwater quality to the public. This is consistent with several of the goals identified in the SWRCB Strategic Plan (November 2001). The following bullets identify the related SWRCB Strategic Plan goals and how the implementation of the Act will help to support them:

- *Strategic Plan Goal 1 - The Board's organizations are effective, innovative and responsive.*
  Through prioritization (by building on existing groundwater monitoring programs and identifying necessary program enhancements) and effective coordination and

collaboration with external stakeholders, the implementation of the Act will identify opportunities to increase program effectiveness and stretch limited resources.

- *Strategic Plan Goal 3 – Groundwater is safe for drinking and other beneficial uses.*
  The implementation of the Act supports the development of a comprehensive groundwater monitoring plan that aids in the protection of groundwater resources.

- *Strategic Plan Goal 5 – Individuals and other stakeholders support our efforts and understand their role in contributing to water quality.*
  One of the primary goals of the Act is to increase the availability of information about groundwater quality to the public. Consistent with that goal, the implementation of the Act facilitates interagency and stakeholder communication and coordination.

- *Strategic Plan Goal 6 – Water quality is comprehensively measured to evaluate protection and restoration efforts.*
  The implementation of the Act will result in the development of a comprehensive groundwater monitoring plan.

PROJECT OBJECTIVES

To achieve the project goal, specific objectives identified below have been established to address the requirements specified in the Act. In addition, a detailed description of each objective and associated tasks is presented in the following section.

1. Create an Interagency Task Force,

2. Convene a Public Advisory Committee to the Interagency Task Force,

3. Coordinate with the Regional Water Quality Control Boards,

4. Make information regarding the implementation of the Act available to the public,

5. Design a comprehensive groundwater monitoring program capable of assessing each groundwater basin in the state through direct and other statistically reliable sampling approaches, and

6. Report to the Governor and Legislature by March 1, 2003.

Objective 1. Convene an Interagency Task Force

The Act requires that the SWRCB convene an interagency task force (ITF). The Act specifies that the ITF will include members from the following agencies: SWRCB, Department of Water Resources (DWR), Department of Health Services (DHS), Department of Pesticide Regulation (DPR), Department of Toxic Substances Control (DTSC), and Department of Food and Agriculture (CDFA). The ITF will coordinate to address the following issues:

- Identify actions necessary to establish the monitoring program.
- Identify measures to increase coordination among state and federal agencies that collect information regarding groundwater contamination in the state.
- Design a database capable of supporting the monitoring program that is compatible with the state board's Geotracker database.
- Determine the constituents of concern to be included in the monitoring program.
- Assess the scope and nature of necessary monitoring enhancements.
- Identify the cost of any recommended measures.
- Identify the means by which to make monitoring information available to the public.

The specific tasks associated with Objective 1 are identified below:

Task (1A)
Invite specified agencies to participate on the ITF (December 2001).

Task (1B)
Announce and hold an organizational meeting for the ITF (January 2002).

Task (1C)
Schedule monthly meetings of the ITF and identify key focus areas (Attachment 1). Notice meetings to interested parties 10-days in advance of each ITF meeting. Post meeting agenda and final meeting summaries on the SWRCB Internet site. (Ongoing)

Task (1D)
Coordinate with the ITF on specific issues identified above, including key focus areas identified in Attachment 1. Discussion topics will be brainstormed by the ITF, recorded by SWRCB staff, reviewed by the ITF, and presented to the public advisory committee at the following public advisory committee meeting. (Ongoing)

Task (1E)
Coordinate with the ITF on the development of the comprehensive groundwater monitoring program Report to the Legislature (due March 1, 2003). (Ongoing)

Objective 2. Convene a Public Advisory Committee

The Act requires the SWRCB to convene a public advisory committee (PAC) to the ITF. The Act specifies that the PAC include representatives from the following groups:

- Two representatives of appropriate federal agencies, if those agencies wish to participate.
- Two representatives of public water systems, one of which shall be a representative of a retail water supplier.
- Two representatives of environmental organizations.
- Two representatives of the business community.
- One representative of a local agency that is currently implementing a plan pursuant to Part 2.75 (commencing with Section 10750).
- Two representatives of agriculture.
- Two representatives from groundwater management entities.

The specific tasks associated with Objective 2 are identified below:

Task (2A)
Contract with AB 599 PAC meeting facilitator (January 2002).

Task (2B)
Invite specified groups to participate in the PAC (January 2002).

Task (2C)
Announce and hold an organizational meeting for the PAC (February 2002).

Task (2D)
Schedule monthly/bimonthly meetings of the PAC and identify key focus areas (Attachment 1). Notice meetings to interested parties 10-days in advance of each PAC meeting. Post meeting agenda package and final meeting summaries on the SWRCB Internet site. (Ongoing)

Task (2E)
Following discussion with the ITF, the specific issues identified above in Objective 1, including key focus areas identified in Attachment 1 will be presented to the PAC. (Ongoing)

Task (2F)
Coordinate with the PAC on the development of the comprehensive groundwater monitoring program Report to the Legislature. (Ongoing)

Task (2G)
The PAC will develop a Forward section to the Report to the Legislature (November 2002)

Objective 3. Coordinate with Regional Water Quality Control Boards

The SWRCB recognizes that the Regional Water Quality Control Boards (RWQCBs) play an important role regarding groundwater quality and that input from RWQCB staff on the implementation of the Act will yield a positive contribution. The SWRCB will keep RWQCB staff involved by:

Task (3A)
Placing RWQCB Executive Officers and GAMA Program staff contacts on the AB 599 interested parties database (Ongoing).

Task (3B)
Updating RWQCB GAMA Program staff contacts on the implementation of the Act at quarterly GAMA Program Staff meetings (Ongoing).

Task (3C)
Soliciting input from RWQCB staff on specific topics including existing groundwater monitoring programs and data at the various RWQCB offices (Ongoing).

Objective 4. Make information regarding the implementation of the Act available to the public

Consistent with the goal of increasing the public availability of groundwater information, the implementation of the Act will be open to the public. The specific tasks associated with Objective 4 are identified below:

Task (4A)
Maintaining an AB 599 interested parties database and electronic mailing list (Ongoing).

Task (4B)
Maintaining an updated AB 599 Internet site with meeting schedule, meeting announcements, agenda packages, and meeting summaries (Ongoing).

Task (4C)
Welcoming public comment during designated meeting times (Ongoing).

Objective 5. Design a comprehensive groundwater monitoring program

The Act requires the SWRCB, in coordination with the ITF, to design a comprehensive groundwater monitoring program capable of assessing each groundwater basin in the state through direct and other statistically reliable sampling approaches. In designing the comprehensive groundwater monitoring program, the SWRCB shall integrate projects established in response to the Supplemental Report of the 1999 Budget Act (SWRCB Groundwater Ambient Monitoring and Assessment Program), strive to take advantage of and incorporate existing data whenever possible, and prioritize groundwater basins that supply drinking water. The specific tasks associated with Objective 5 are identified below:

Task (5A)
Contract with the U.S. Geological Survey (USGS) to develop the technical details of the comprehensive groundwater monitoring plan (January 2002). At a minimum, the plan will include the following elements:

1. Components of the "Ideal" Comprehensive Groundwater Monitoring Plan
2. Alternative Approaches to a Comprehensive Groundwater Monitoring Plan
3. Collection of Data/Information from Existing State Groundwater Monitoring Programs
4. Data Management and Analysis
5. Assessment and Identification of Information/Data Gaps
6. Assessment of Additional Necessary Groundwater Monitoring
7. Estimate of Resources Necessary to Implement Various Comprehensive Groundwater Monitoring Plan Approaches
8. A Prioritized List of Actions to Increase Effectiveness of Monitoring Efforts

Task (5B)
Draft annotated outline for Comprehensive Groundwater Monitoring Plan (USGS, March 2002).

Task (5C)
Coordinate with the ITF to identify existing groundwater monitoring programs and data (March 2002).

Task (5D)
Coordinate with the ITF to develop process/criteria for prioritizing groundwater basins that supply drinking water (May/June 2002).

Task (5E)
Prepare interim draft of Comprehensive Groundwater Monitoring Plan (USGS, September 2002).

Task (5F)
Solicit guidance and feedback from the ITF and PAC regarding the Comprehensive Groundwater Monitoring Plan developed by the USGS (February - September 2002).

Task (5G)
Complete final Comprehensive Groundwater Monitoring Plan (USGS, November 2002).

Objective 6. Report to the Governor and Legislature

AB 599 requires the SWRCB, in coordination with the ITF, to submit to the Governor and the Legislature, on or before March 1, 2003, a report that includes a description of a comprehensive groundwater quality monitoring program for the state. The Act specifies that the report will include the following:

1. A detailed description of a comprehensive groundwater quality monitoring program for California that accomplishes the goals and objectives of the Act.

2. A description of how the program takes maximum advantage of existing information and an assessment of additional monitoring necessary to support the program.

3. A specific set of recommendations for coordinating and, as necessary, restructuring existing monitoring programs to efficiently achieve the goals of the Act.

4. An estimate of funding necessary to implement the comprehensive program and the factual basis for the estimate.

5. Recommendations with regard to an ongoing source of funds to pay for the program.

6. A ranked list of actions that, if implemented independently, would increase the effectiveness of monitoring efforts.

The report will also include discussion on related topics addressed by the ITF (described in Objective 1). The Act specifies that this effort should build on existing groundwater monitoring programs, especially projects established in response to the Supplemental Report of the 1999 Budget Act (SWRCB Groundwater Ambient Monitoring and Assessment Program). One of the initial steps of the SWRCB Groundwater Ambient Monitoring and Assessment Program (GAMA) was to prepare the 2000 Report to the Legislature, titled *Plan for Implementing a Comprehensive Program for Monitoring Ambient Surface and Groundwater Quality*. This report laid the framework for a comprehensive groundwater monitoring program and will serve as the foundation for the Report to the Governor and Legislature to be submitted in March 2003. A draft outline for the Report to the Governor and Legislature is included as Attachment 3. Finally, the report will include a Forward, prepared by the PAC and an Executive Summary prepared by the ITF. The specific tasks associated with Objective 6 are identified below:

Task (6A)
Develop draft report outline and solicit guidance and feedback from the ITF and PAC (March 2002, Attachment 2).

Task (6B)
Develop draft report sections and solicit guidance and feedback from the ITF and PAC. A detailed target schedule for report section discussion and draft preparation is shown in Table 1. (Ongoing).

Task (6C)
Develop draft report and distribute to ITF and PAC for review and comment (September 2002).

Task (6D)
Address comments and prepare final Report to the Governor and Legislature (October 2002).

Task (6E)
Incorporate final Comprehensive Groundwater Monitoring Plan prepared by USGS (November 2002).

Task (6F)
Submit Report to SWRCB Division of Clean Water Programs (DCWP) (December 1, 2002).

Task (6G)
Submit Report to SWRCB Office of Legislative and Public Affairs (OLPA) (December 31, 2002).

Task (6H)
Submit Report to Governor and Legislature by March 1, 2003.

Table 1. Target schedule for Report Section Discussion and Draft Preparation.

CH	Topic	ITF Disc.	PAC Disc.	Draft Chapter	Dist. to ITF	Dist. to PAC
F	Forward (PAC)	NA		Oct.	NA	Nov. 1
ES	Executive Summary (ITF)		NA	Oct.	Nov. 1	NA
1	Background	Feb.	Feb.	May	Mar. 17	July 10
2	Goals & Features of a Comprehensive Groundwater Monitoring Program	Feb./April	Feb./April	May	May 1	July 10
3	Existing Groundwater Monitoring Programs in California	Feb.	Feb.	May	June 15	July 10
4	Interagency Coordination for Groundwater Monitoring Programs	April	May	May	June 15	July 10
5	Data Management Needs for the Comprehensive Groundwater Monitoring Program	Feb./April	Feb./April	May	June 15	July 10
6	Public Access to Groundwater Information and Data	April	May	June	June 15	July 10
7A	Designing a Comprehensive Groundwater Monitoring Plan	Feb. – Aug.	Feb. – Aug.	June – Sept.	Aug. 1	Aug. 15
7B	Groundwater Monitoring Plan (USGS)	Feb. – Aug.	Feb. – Aug.	Feb. – Sept.	Sept. 1	Sept. 15
8	Resource Needs to Support the Comprehensive Groundwater Monitoring Program (including potential funding sources)	July	July	Aug.	Sept. 1	Sept. 15
9	Recommendations for Implementation of a Comprehensive Groundwater Monitoring Program	Aug./Sept	Oct.	Sept.	Oct. 1	Oct. 9
C	Conclusions	Aug./Sept	Oct.	Sept.	Oct. 1	Oct. 9

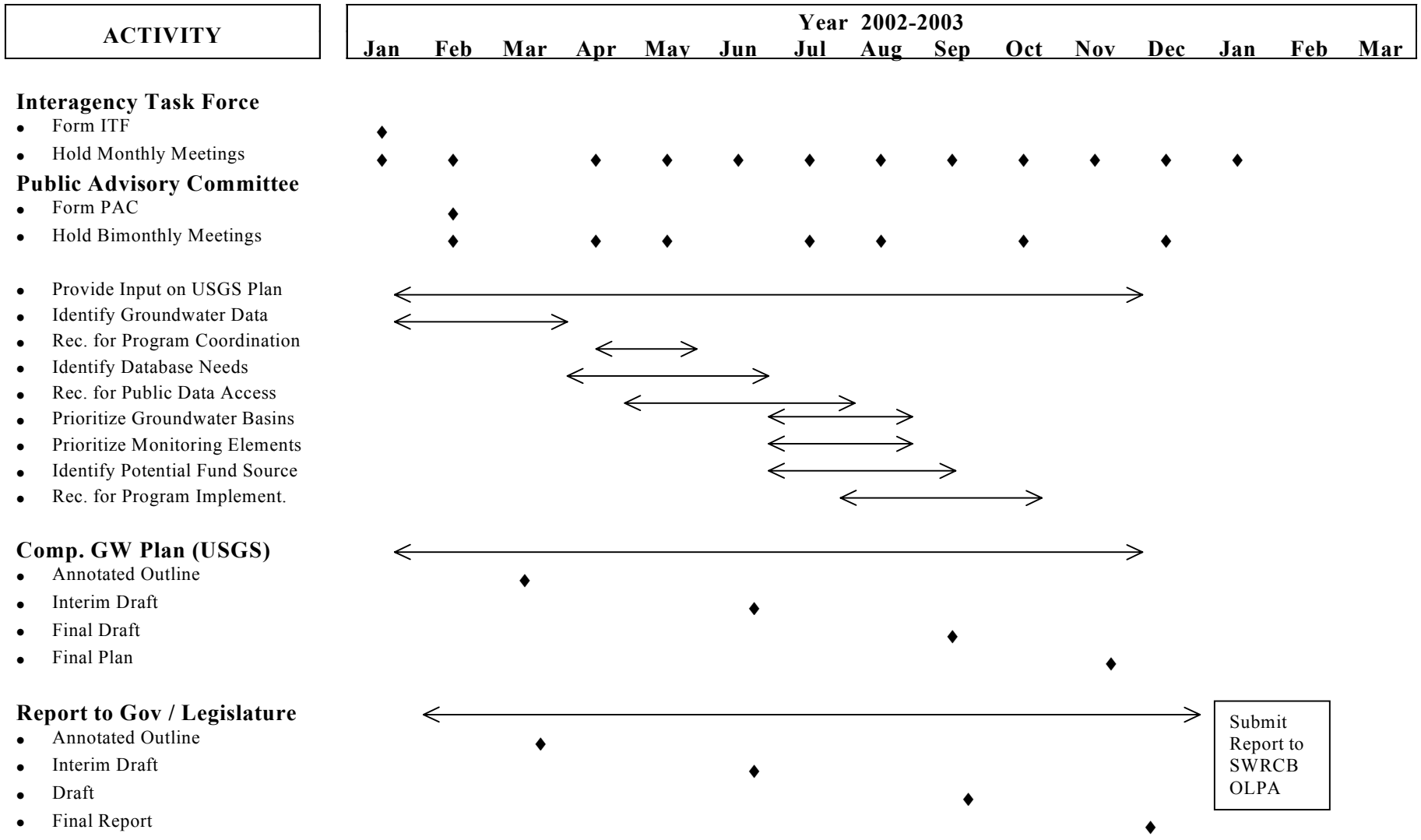
PROJECT MILESTONES

The objectives and associated tasks form the basis for implementing the Act. Critical tasks that serve as key project milestones are identified in Table 2. A general timeline is shown in Figure 1.

Table 2. Project Milestones

TASK	Milestone Description	Projected Completion Date
1A	Identify ITF members	December 2001
1B	Convene ITF organizational meeting	January 2002
2A	Contract with AB 599 PAC meeting facilitator	January 2002
2B	Identify PAC members	January 2002
2C	Convene PAC organizational meeting	February 2002
5A	Contract with USGS to develop comprehensive groundwater monitoring plan.	January 2002
5B	Draft annotated outline for comprehensive groundwater monitoring plan (USGS).	March 2002
5E	Prepare draft comprehensive groundwater monitoring plan (USGS).	September 2002
5G	Complete final comprehensive groundwater monitoring plan (USGS).	November 2002
6A	Draft outline for Report to the Governor and Legislature	March 2002
6C	Develop draft Report to the Governor and Legislature and distribute to ITF and PAC for review and comment.	October 2002
6E	Incorporate final comprehensive groundwater monitoring plan (USGS) into Report to the Governor and Legislature	November 2002
6F	Submit final Report to the Governor and Legislature to SWRCB Division of Clean Water Programs (DCWP).	December 1, 2002
6G	Submit final Report to the Governor and Legislature to SWRCB Office of Legislative and Public Affairs (OLPA).	December 31, 2002
6H	Submit final Report to the Governor and Legislature	March 1, 2003

FIGURE 1: TIMELINE FOR IMPLEMENTATION OF GROUNDWATER QUALITY MONITORING ACT



Attachment 1

ASSEMBLY BILL 599
2002-2003 STAKEHOLDER MEETING SCHEDULE

Public Advisory Committee

Date	Time	Location	Area of Focus
February 27, 2002	9:30AM – 4PM	Cal/EPA, Sierra Hearing Room	Overview of AB599; ITF/PAC Roles and Responsibilities; Brainstorming
April 9	9:30AM – 4PM	Doubletree Sacramento	Ideal Comprehensive Groundwater Monitoring Plan, Groundwater Databases
May 29	9:30AM – 4PM	Sheraton Grand Sacramento	Interagency Coordination, Public Access to Groundwater Information
July 24	9:30AM – 4PM	Sheraton Grand Sacramento	Comprehensive Groundwater Monitoring Plan, Resource Needs and Potential Fund Sources, Report Chapters 1-6
August 28	9:30AM – 4PM	Cal/EPA, Sierra Hearing Room	Comprehensive Groundwater Monitoring Plan, Report Chapters 7-8
October 23	9:30AM – 4PM	Cal/EPA, Sierra Hearing Room	Recommendations for Groundwater Program Implementation, Chapter 9, Forward
December 18	9:30AM – 4PM	Cal/EPA, Sierra Hearing Room	Final Wrap-Up

Interagency Task Force Meetings:

Date	Time	Location	Area of Focus
January 24, 2002	9AM – 4PM	Cal/EPA, Training 2-West	Overview of AB599; ITF/PAC Roles and Responsibilities; Brainstorming
February **28***	9AM – 3PM	Cal/EPA, Training 2- West	Existing Groundwater Programs and Data, Ideal Comprehensive Groundwater Monitoring Plan
April **10***	9:30AM – 4PM	Cal/EPA, Training 2-West	Interagency Program Coordination, Identify Database Needs (including public data access)
May **30***	9:30AM – 4PM	Cal/EPA, Conference Rm. 1610	Comprehensive Groundwater Monitoring Plan, Prioritize Groundwater Basins and Monitoring Elements, Chapters 1-4.

Attachment 1 (continued)

Interagency Task Force Meetings (continued):

June 20	9:30AM – 4PM	Cal/EPA, Training 1-West	Comprehensive Groundwater Monitoring Plan, Chapters 5-6
July 25*	9:30AM – 4PM	Cal/EPA, Training 2-West	Comprehensive Groundwater Monitoring Plan, Resource Needs and Potential Fund Sources
August 29*	9:30AM – 4PM	Cal/EPA, Training 2- E/W	Comprehensive Groundwater Monitoring Plan, Recommendations for Groundwater Program Implementation, Chapter 7
September 26	9:30AM – 4PM	Cal/EPA, Training 2-West	Comprehensive Groundwater Monitoring Plan, Recommendations for Groundwater Program Implementation, Chapter 8
October 24*	9:30AM – 4PM	Cal/EPA, Training 1-West	Recommendations for Groundwater Program Implementation, Chapter 9
November 21	9:30AM – 4PM	Cal/EPA, Training 2- E/W	Chapters 1-9, Executive Summary
December 19*	9:30AM – 4PM	Cal/EPA, Training 2- E/W	Chapters 1-9, Executive Summary
January 23, 2003	9:30AM – 4PM	Cal/EPA, Training 2- E/W	Final Wrap-Up

**Follow-up ITF meeting to PAC Meeting; TBD – To be determined*

Attachment 2

REPORT TO THE LEGISLATURE
COMPREHENSIVE GROUNDWATER MONITORING PROGRAM

OUTLINE

FORWARD (Developed by PAC)

EXECUTIVE SUMMARY (Developed By ITF)

CHAPTER 1. BACKGROUND
- Groundwater Quality Monitoring Act of 2001 (Assembly Bill 599)
- Why Monitor Groundwater?
- Is all Groundwater Monitoring the Same?
- What are the Purposes of Groundwater Monitoring (Resource Assessment, Compliance)?
- What are the Types of Groundwater Monitoring (Survey, Monitoring, Assessment) ?
- What are the Uses of Groundwater Monitoring Information?
- Where is Groundwater in California?

CHAPTER 2. GOALS AND FEATURES OF A COMPREHENSIVE GROUNDWATER MONITORING PROGRAM
- General Features of a Comprehensive Groundwater Monitoring Program
  - Clear Objectives
  - Cooperative Efforts
  - Adaptability
  - Scientifically Sound Monitoring Design
  - Meaningful Indicators
  - Comparable Methods of Sampling and Analysis
  - Data Quality Assurance/Quality Control
  - Results Evaluation
  - Continual Refinement
  - Regular Reporting

- Specific Goals and Objectives Comprehensive Groundwater Monitoring Program

CHAPTER 3. EXISTING GROUNDWATER MONITORING PROGRAMS IN CALIFORNIA
- Groundwater Monitoring Programs/Resources/Data

CHAPTER 4. INTERAGENCY COORDINATION FOR GROUNDWATER MONITORING PROGRAMS

CHAPTER 5. DATA MANAGEMENT NEEDS FOR THE COMPREHENSIVE GROUNDWATER MONITORING PROGRAM

CHAPTER 6. PUBLIC ACCESS TO GROUNDWATER INFORMATION AND DATA

CHAPTER 7. DESIGNING A COMPREHENSIVE GROUNDWATER MONITORING PROGRAM

- Examples of Existing Comprehensive Groundwater Monitoring Programs
- Conceptual Groundwater Monitoring Framework
- Technical Groundwater Monitoring Plan (USGS)
    1. *Alternative Approaches to a Comprehensive Groundwater Monitoring Plan*
        - *Monitoring Network Design*
        - *Constituents Sampled*
        - *Sampling Frequency*
        - *Levels of Uncertainty*
        - *Pilot Study/Proof-in-Concept*
    2. *Collection of Data/Information from Existing State Groundwater Monitoring Programs*
    3. *Data Management*
    4. *Data Analysis*
    5. *Assess and Identify Information/Data Gaps*
    6. *Assessment of Additional Groundwater Monitoring Necessary*
    7. *Estimate of Resources Necessary to Implement Various Comprehensive Groundwater Monitoring Plan Approaches*
    8. *A Prioritized List of Actions to Increase Effectiveness of Monitoring Efforts*

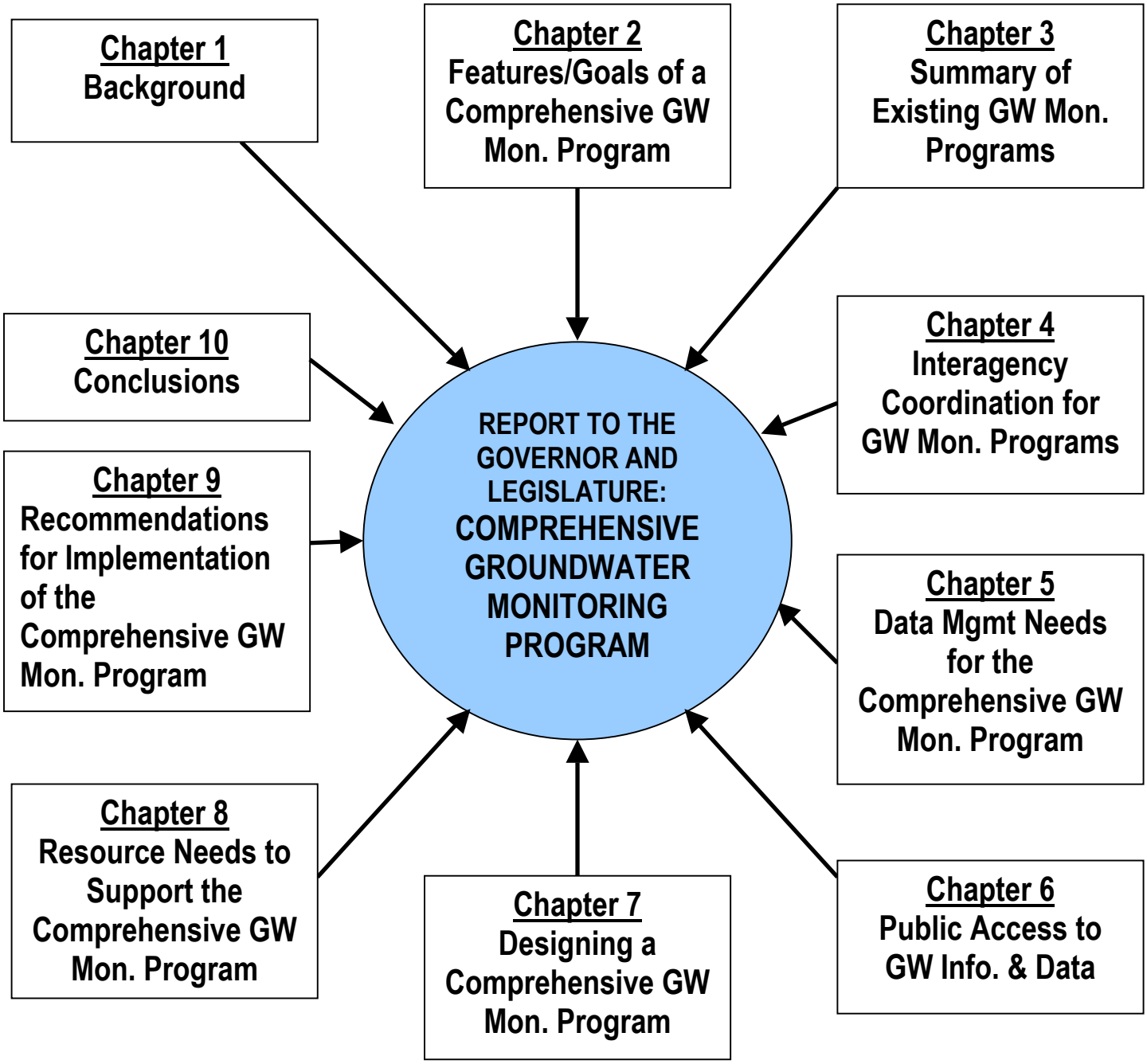
CHAPTER 8. RESOURCE NEEDS TO SUPPORT THE COMPREHENSIVE GROUNDWATER MONITORING PROGRAM

CHAPTER 9. RECOMMENDATIONS FOR IMPLEMENTATION OF A COMPREHENSIVE GROUNDWATER MONITORING PROGRAM

- Comprehensive Groundwater Monitoring Plan Approach Recommendation
- Recommendations for Groundwater Basin Prioritization
- Recommendations for Coordinating Existing Monitoring Programs
- Recommendations for a Database Capable of Supporting the Comprehensive Groundwater Monitoring Program
- Recommendations for Making Groundwater Information Available to the Public
- Recommendations for an Ongoing Source of Funds

CHAPTER 10. CONCLUSIONS

Figure 1. Comprehensive Groundwater Monitoring Program Report.



Abbreviations:

GW – Groundwater
Info – Information
Mgmt – Management
Mon – Monitoring
Calif. - California

BILL NUMBER: AB 599 CHAPTERED
BILL TEXT

CHAPTER 522
FILED WITH SECRETARY OF STATE OCTOBER 5, 2001
APPROVED BY GOVERNOR OCTOBER 4, 2001
PASSED THE SENATE SEPTEMBER 12, 2001
PASSED THE ASSEMBLY SEPTEMBER 12, 2001
AMENDED IN SENATE SEPTEMBER 6, 2001
AMENDED IN SENATE AUGUST 28, 2001
AMENDED IN SENATE AUGUST 20, 2001
AMENDED IN SENATE JULY 19, 2001
AMENDED IN SENATE JULY 5, 2001
AMENDED IN ASSEMBLY MAY 31, 2001
AMENDED IN ASSEMBLY APRIL 26, 2001

INTRODUCED BY Assembly Member Liu
(Coauthors: Assembly Members Calderon, Chavez, Robert Pacheco, and Strom-Martin)
(Coauthors: Senators Kuehl and Romero)

FEBRUARY 22, 2001

An act to add Part 2.76 (commencing with Section 10780) to Division 6 of the Water Code, relating to water.

LEGISLATIVE COUNSEL'S DIGEST

AB 599, Liu. Groundwater contamination: quality monitoring program. Existing law declares that groundwater is a valuable natural resource in the state and should be managed to ensure its safe production and its quality. Existing law authorizes specified local agencies to adopt and implement groundwater management plans.

This bill would require the State Water Resources Control Board to integrate existing monitoring programs and design new program elements, as necessary, for the purpose of establishing a comprehensive monitoring program capable of assessing each groundwater basin in the state through direct and other statistically reliable sampling approaches, and to create an interagency task force to identify actions necessary to establish the monitoring program and to identify measures that would increase coordination among state and federal agencies that collect groundwater contamination information. The bill would require the state board to convene a described advisory committee to the task force. The bill

would require the state board, in consultation with other specified agencies, to submit to the Governor and the Legislature, on or before March 1, 2003, a report that includes a description of a comprehensive groundwater quality monitoring program for the state.

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

SECTION 1. The Legislature finds and declares the following:

(a) The importance of maintaining and monitoring a safe groundwater supply in this state for purposes of maintaining a healthy environment and a safe supply of drinking water cannot be minimized.

(b) The lack of information about groundwater contamination greatly impairs the ability of regulators and the public to protect and restore the state's groundwater basins.

(c) The Groundwater Quality Monitoring Act of 2001 enacted by this act is necessary to protect and restore groundwater as a valuable natural resource in California.

SEC. 2. Part 2.76 (commencing with Section 10780) is added to Division 6 of the Water Code, to read:

PART 2.76. GROUNDWATER QUALITY MONITORING

10780. This part shall be known and may be cited as the Groundwater Quality Monitoring Act of 2001.

10781. In order to improve comprehensive groundwater monitoring and increase the availability to the public of information about groundwater contamination, the state board, in consultation with other responsible agencies, as specified in this section, shall do all of the following:

(a) Integrate existing monitoring programs and design new program elements as necessary to establish a comprehensive monitoring program capable of assessing each groundwater basin in the state through direct and other statistically reliable sampling approaches. The interagency task force established pursuant to subdivision (b) shall determine the constituents to be included in the monitoring program. In designing the comprehensive monitoring program, the state board, among other things, shall integrate projects established in response to the Supplemental Report of the 1999 Budget Act, strive to take advantage of and

incorporate existing data whenever possible, and prioritize groundwater basins that supply drinking water.

(b) (1) Create an interagency task force for all of the following purposes:

(A) Identifying actions necessary to establish the monitoring program.

(B) Identifying measures to increase coordination among state and federal agencies that collect information regarding groundwater contamination in the state.

(C) Designing a database capable of supporting the monitoring program that is compatible with the state board's geotracker database.

(D) Assessing the scope and nature of necessary monitoring enhancements.

(E) Identifying the cost of any recommended measures.

(F) Identifying the means by which to make monitoring information available to the public.

(2) The interagency task force shall consist of a representative of each of the following entities:

(A) The state board.

(B) The department.

(C) The State Department of Health Services.

(D) The Department of Pesticide Regulation.

(E) The Department of Toxic Substances Control.

(F) The Department of Food and Agriculture.

(c) Convene an advisory committee to the interagency task force, with a membership that includes all of the following:

(1) Two representatives of appropriate federal agencies, if those agencies wish to participate.

(2) Two representatives of public water systems, one of which shall be a representative of a retail water supplier.

(3) Two representatives of environmental organizations.

(4) Two representatives of the business community.

(5) One representative of a local agency that is currently implementing a plan pursuant to Part 2.75 (commencing with Section 10750).

(6) Two representatives of agriculture.

(7) Two representatives from groundwater management entities.

(d) (1) The members of the advisory committee may receive a per diem allowance for each day's attendance at a meeting of the advisory committee.

(2) The members of the advisory committee may be reimbursed for actual and necessary travel expenses incurred in connection with their official duties.

10782. On or before March 1, 2003, the state board, in consultation with the other task force agencies specified in Section

10781, shall report to the Governor and the Legislature. The multiagency report shall include all of the following:

(a) A detailed description of a comprehensive groundwater quality monitoring program for California that accomplishes the goals and objectives of the act adding this part.

(b) A description of how the program takes maximum advantage of existing information and an assessment of additional monitoring necessary to support the program.

(c) A specific set of recommendations for coordinating and, as necessary, restructuring existing monitoring programs to efficiently achieve the goals of this part.

(d) An estimate of funding necessary to implement the comprehensive program and the factual basis for the estimate.

(e) Recommendations with regard to an ongoing source of funds to pay for the program.

(f) A ranked list of actions that, if implemented independently, would increase the effectiveness of monitoring efforts.

10782.3. The state board shall use existing resources to carry out this part, and the operation of the program set forth in this part shall not supplant the operation of any other program required to be undertaken by the state board.